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Communications on observations made in the course of your studies are solicited; also exhibits of any specimens you consider of interest.

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ENTOMOLOGICAL NEWS

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Insects Collected in Flight Traps in the Willamette Valley, Oregon, in 1931 and 1932.

By FRANK G. HINMAN and A. O. LARSON,

Bureau of Entomology and Plant Quarantine, U. S. Department of Agriculture.

An account of the insects collected in flight traps near Moscow, Idaho, has been published by Paul L. Rice (2). Flight traps were also operated by the writers, in studying the pea weevil in the Willamette Valley, and it was thought that the record of a similar study might be of value by furnishing data on the insects occurring in the Willamette Valley, the time of their occurrence, and the effect of climatic factors on their abundance, as well as furnishing data for a comparison with the results obtained by Rice in a different locality.

METHOD.

The trap used was very similar to that designed and described by Wakeland (3) and employed by Rice (2). It was made of a vertical wire screen bordered at the sides and top by a metal frame extending out from it at right angles for a distance of about six inches on either side of the screen and fitted with two square-topped funnels at the base, one on either side of the screen. Metal cans were fitted at the lower ends of the funnels. Insects striking the screen fell down through the funnels into the cans. No attractants or killing agents were used.

The traps were held by two wooden uprights so that the cans would be from 3 to 6 feet above the ground. All were on level ground, in or at the edge of cultivated fields, chiefly pea fields, with the exception of Trap I, which was situated on top of a solitary hill several hundred feet above the fields. This hill was heavily wooded with oak trees on the north side, and a few firs grew on the south side.

Twelve traps were set up in March, 1931, but 1 was taken down on April 29 and another on June 22. In 1932 there

were 11 traps in use, the one taken down in June of the year before having been put up again. In 1931 they were visited at intervals of from 5 days to 2 weeks from March 13 to December 9, and in 1932 from January 6 to December 3, and at somewhat longer intervals in a number of cases. There were 632 can collections made in 1931 and 524 in 1932. It was seldom that all of the traps were visited on the same day. Usually part were examined on one day and the rest on the day following. Rainy weather interfered considerably with trap collections, especially in the spring.

INSECTS COLLECTED.

The insects caught in 1931 were sent to the taxonomists of the Bureau of Entomology who identified all except most of the Diptera, which were in very poor condition; several families of Coleoptera, including the Chrysomelidae; and the Tenthredinidae. Those caught in 1932 were not determined by taxonomic specialists, but records were kept of their numbers, and the families to which they belonged were determined in as many cases as possible. The following tabulation shows the numbers of families, species, and specimens found in the 14 orders collected in 1931:

Insects Collected in Flight Traps in the Willamette Valley, Oregon, in 1931.

Order	Number of Families	Number of Species	Number of Specimens
Orthoptera	2	4	7
Isoptera	1	2	27
Neuroptera	2	5	33
Ephemerida	1	3	17
Plecoptera	1	1	7
Corrodentia	1	3	13
Hemiptera	15	63	1,518
Homoptera	7	49	405
Dermaptera	1	1	1
Coleoptera	39	197	4,012
Trichoptera	2	3	22
Lepidoptera	7	18	76
Diptera	25	32	663
Hymenoptera	25	115	768
Total	129	496	7,569

The pea aphid, *Illinoia pisi* (Kalt.), occurred in such large numbers that it was not included in the table. More than 3,650 individuals were counted, and there were many more. Collembola also occurred at times in large numbers.

It is interesting to note the similarity between the above table and that given by Rice (2). In both Idaho and Oregon the greatest number of species were obtained in the order Coleoptera followed by the Hymenoptera, while the Hemiptera and Homoptera, each with much fewer species, ranked third and fourth respectively in both localities. In comparison with the insects obtained in Idaho 2 more orders, 21 more families and the same number of species are represented in the 1931 collections in Oregon.

In 1931 the following species were obtained in numbers above 100:

Illinoia pisi (Kalt.) (Aphiidae)	More than 3,650
Bruchus pisorum L. (Bruchidae)	992
Corizus scutatus Stal (Coreidae)	912
Diabrotica soror Lec. (Chrysomelidae)	470
Hippodamia ambigua Lec. (Coccinellidae)	367
Bibio nervosus Loew (Bibionidae)	191
Meligethes mutatus Har. (Nitidulidae)	141
Prenolepis imparis (Say) (Formicidae)	140
Pleurophorus caesus Creutz (Scarabaeidae)	131
Leptocoris trivittatus (Say) (Coreidae)	119
Rhyparochromus chiragra californica VanD. (Lygaeidae)	117
Polyamia inimica (Say) (Cicadellidae)	116

A number of new or rare species were identified from the trap collections. Two specimens of a carabid beetle were marked "genus unknown" by L. L. Buchanan. Six specimens of Hymenoptera, including 3 braconids, were found to be new species. There were 5 new species of Cicadellidae and a new species of *Corizus* (Coreidae). Many of those insects not determined as to species by the taxonomists were probably also new. One andrenid was determined by G. A. Sandhouse as a male of *Halictus kincaidii* Ckll. Only the female had been known previously. R. A. Cushman identified one ichneumonid as *Phytodietus parvus* Rohwer, and reported it to be the second

known specimen of the species. *Buprestis gibbsi* (Lec.) is a very rare buprestid in Oregon, yet 5 specimens of this species were taken in the traps, 3 in 1931 and 2 in 1932.

In 1932 only 3,445 specimens, exclusive of 304 pea aphids, were obtained. This is less than half the number collected the year before. In 120 of the 129 families represented in the collections in 1931 there was either a decrease in numbers or a total lack of representatives in 1932. The four species caught in the greatest numbers the year before were the only ones of which more than 100 specimens were taken in 1932. These were: *Bruchus pisorum*, 526; *Illinoia pisi*, 304; *Corizus scutatus*, 239; and *Diabrotica soror*, 167. Coccinellids dropped from 704 to 78, bibionids from 307 to 41, *Meligethes mutatus* from 141 to 20. The catch of most of the other insects dropped to from 90 to 15 percent of the number obtained the year before.

Reasons for the Decrease in the Number of Insects Caught in 1932.

There are three reasons for the difference in the numbers caught in the two years:

(1) The traps were visited somewhat less frequently in 1932 than in 1931, and in 1932 some trouble was experienced with live stock knocking the cans loose from the traps. The less frequent the visits, the greater the likelihood of some of the insects escaping, or being eaten by the predacious species caught, or decomposing owing to the collection of water in the cans.

(2) In 1931 ten of the 12 traps were in or at the edge of pea fields. In 1932 most of the fields were planted to hay or grain; only 2 traps were adjoining peas, 2 were within a few hundred yards of pea fields, and 3 were in fields with quite a number of scattered volunteer peas in them. So there was much less chance in 1932 of collecting pea insects, which in 1931 constituted a large part of the catch. The pea aphid was very abundant in 1931, its presence resulting in a large population of coccinellids, cantharids, syrphids, and other predators.

These in turn attracted insects predacious on themselves. In 1932 there were very few aphids, and this resulted in a decrease in the number of species directly or indirectly associated with them.

(3) Perhaps the most important single factor causing this difference in numbers was the difference in the weather of the two years. The winter of 1930-31 was very mild. April, May, most of June, and July and August of 1931 were dry and warm. On the other hand, the winter of 1931-32 was more severe than usual, beginning with a very cold November in 1931. March, 1932, was the wettest March on record in western Oregon. April and May, 1932, were wet and very cloudy. The cold winter and the long-continued wet weather in the spring seemed to have resulted in a decrease in numbers of almost every species. The almost total absence of the pea aphid and consequent decrease in its predators was probably due to the difference in the weather of the two years.

Relation of Trap Catches to Weather Conditions.

The fact that the trap collections were made at irregular intervals over only a two-year period precludes any definite conclusions being drawn as to the effect of weather conditions on the individual collections. However, it may be of interest to mention the effects that the data seemed to indicate.

During the spring and early summer trap collections appeared to increase after warm weather and to decrease after a rain. During the fall they apparently increased following a rain and decreased in periods of hot, dry weather.

There seemed to be two peaks and two low points in the trap collections. The first peak occurred early in the spring, about April, when insects were leaving hibernation or emerging as adults after passing the winter in an immature stage, and seemed favored by dry, warm weather; the second came in the fall, in September or October, when insects developed during the summer were seeking hibernation quarters or were flying away from their food plants which had become unfit for food

by this time, and this peak seemed favored by just the opposite conditions—wet, cool weather. The two low points occurred, one in the winter when insect development and movement was retarded by cold and rain, and one in July and August when many insects were in the immature stages or may have been aestivating or keeping under cover because of high temperatures.

Further Considerations.

The number of species, like the number of specimens, was greatest in the spring, decreasing during the summer and increasing again in the fall. Rice (2) reported exactly similar results.

No correlation was found between the direction in which the trap was facing and the insect catch. Trap I, on top of a hill, caught twice as many insects as any other trap in 1931 and nearly twice as many as any other in 1932. It also held more species. The other traps varied considerably in their catches and in the number caught in the two cans on each trap, but a study of the position of the traps in relation to their surroundings failed to show why these differences occurred. Rice (2) also failed to find any consistent relationship between the location of the traps or the directions in which they were facing and the number of specimens or species caught, except that, "As a rule, more species were captured in traps on high ground than in those on low ground."

Since the trap collects only those insects that fly into it and are not agile enough to escape, it is doubtful whether its catches are representative of the entire insect population in its vicinity. In 1931, as stated, 10 of the 12 traps were in or at the edge of pea fields. From July 10 to August 17 of that year 78 plats, each 10 feet square, were examined in harvested pea fields adjoining these traps, and all of the insects found on them were picked up (1). Of the 64 species obtained in this way 44 were also collected in the traps. Those not caught by the traps were obtained in numbers of from 1 to 4 specimens, except in three cases: 17 specimens each of *Nabis ferus* (L.),

Nabis major Costa, and *Coccinella hieroglyphica humboldtiensis* Nun. were found on the fields but were not represented in the collections made with the traps.

LITERATURE CITED.

1. LARSON, A. O., and HINMAN, F. G. Insects Found on Pea Fields in the Willamette Valley, Oregon, After Harvest. Jour. Econ. Ent. 25(5):971-976. October, 1932.
2. RICE, P. L. Insects Collected in Flight Traps in the Vicinity of Moscow, Idaho. Jour. Econ. Ent. 26(6):1079-1083, illus. December, 1933.
3. WAKELAND, CLAUDE. Flight Studies of *Bruchus pisorum* L. (Coleoptera, Bruchidae). Jour. Econ. Ent. 27(2):534-542, illus. April, 1934.

The Coleoptera or Beetles of Georgia (Cicindelidae, Carabidae).

By P. W. FATTIG, Emory University, Georgia.

Since very little has been published concerning the Coleoptera of Georgia, I am submitting a list of the beetles that I have taken in Georgia during the past eight summers.

My collecting of beetles has not been very thorough, since I have always done general collecting. It is my intention to do very thorough collecting of beetles during the next few years. I will appreciate having any one send me a list of the beetles in their collection that have been taken in Georgia, giving me the date, locality and name of collector.

I am greatly indebted to Drs. H. S. Barber, L. L. Buchanan, E. A. Chapin, and W. S. Fisher, of the U. S. National Museum, and to Dr. J. Chester Bradley, of Cornell University, for their identification of a large number of the beetles listed in this paper. I have compared many of the Georgia specimens with Florida specimens, which were identified by Dr. W. S. Blatchley of Indianapolis, Indiana.

The CICINDELIDAE that I have taken belong to two genera and twenty-six species and varieties. The list follows, using the numbers of Leng's Catalog. The numbers in parenthesis refer to the number of specimens taken.

37—TETRACHA CAROLINA Linn. Vienna VI, 17, '31; Bainbridge VI, 18, '31; Atlanta VII, 4 to VIII, 8 (13); Rome VIII, 16, '31.

38—T. VIRGINICA Linn. Albany VI, 1, '32 (3); Griffin VI, 12, '27 (2); Canton VII, 17, '31 (2); Atlanta VII, 30 to IX, 6 (239).

44a—CICINDELA SPLENDIDA TRANSVERSA Leng. Clayton V, 28, '34; Yonah Mt. V, 30, '34.

48—C. ANCOCISCONENSIS Harr. Clayton VIII, 17, '29.

49—C. DUODECIMGUTTATA Dej. Cartersville V, 23, '31; Marietta VI, 5, '30; Douglasville VII, 15, '27; Atlanta VIII, 25 to X, 7, '34 (17).

50—C. REPANDA Dej. Cartersville III, 23, '27; Perry IV, 13, '31; Atlanta IV, 18 to X, 7 (67); Stone Mt. IV, 19, '31; Conyers V, 14, '33 (20); Waycross V, 15, '32; Columbus V, 20, '31 (16); Snellville VI, 12, '31 (5); Bainbridge VI, 19, '31; Cairo VI, 19, '31 (115); Thomasville VI, 19, '31 (6); Toccoa VI, 22, '31; Clayton VIII, 17, '29; Waleska VIII, 28, '28 (4).

51—C. HIRTICOLLIS Say. St. Simons Is. V, 5 to VIII, '31 (145).

53—C. TRANQUEBARICA Hbst. Tallapoosa V, 6, '28.

68e—C. SCUTELLARIS UNICOLOR Dej. Cairo VI, 19, '31.

68f—C. SCUTELLARIS NIGRIOR Schaupp. Cairo VI, 19, '31.

69—C. SEXGUTTATA Fab. Stone Mt. IV, 17 to VI, 16 (9); Macon IV, 29, '31 (6); Atlanta IV, 29 to VII, 11 (36); Echeconnee V, 3, '33 (2); Hamilton V, 19, '31 (2); Blood Mt. V, 21 to V, 29 (54); Pomona VI, 5, '30; Kennesaw Mt. VI, 8, '28; Neel Gap VI, 14, '31 (9); Helen VII, 11, '34; Yonah Mt. VIII, 5, '34; Clayton VIII, 17, '29.

69c—C. SEXGUTTATA HARRISI Leng. Clayton VIII, 17, '29.

70—C. PATRUELA Dej. Blood Mt. V, 21 to IX, 1 (24); Clayton V, 28, '34; Yonah Mt. V, 30, '34; Neel Gap VI, 14 to IX, 1 (5).

74—C. PUNCTULATA Oliv. St. Simons Is. V, 30 to VI, 5 (7); Waycross VI, 10, '31; Colquit VI, 18, '31 (3); Stone Mt. VI, 18, '31; VI, 26, '27; VII, 10, '29; Kennesaw Mt. VI, 21, '30; Dahlonega VI, 22, '32; Tallulah Falls VI, 28, '31; Atlanta VII, 5 to VIII, 26 (11); Helen VII, 11, '34; Clayton VIII, 17, '29.

79—C. ABDOMINALIS Fab. Bainbridge VI, 18, '31; Tallulah Falls VI, 28, '31.

81—C. RUFIVENTRIS Dej. Tallulah Falls VI, 28, '31; Toccoa VII, 3, '31; Yonah Mt. VII, 12 to VIII, 5 (80); Clarkesville VII, 25, '31; Clayton VIII, 17, '29; Atlanta IX, 22, '32.

93—C. UNIPUNCTATA Fab. Stone Mt. IV, 27 to VI, 9 (26); Blood Mt. V, 21 to V, 29 (12); Kennesaw Mt. VI, 8 to VII, 4 (6); Tallulah Falls VI, 28, '31; Yonah Mt. VII, 12, '34, VII, 15, '34, VII, 28, '34 (2); Clayton VIII, 17, '29.

98a—C. TRIFASCIATA TORTUOSA Lec. Folkston V, 8, '32; Conyers V, 14, '33 (2); Bainbridge VI, 19, '31.

101—C. DORSALIS Say. St. Simons Is. V, 30 to VII, 23 (83).

101a—C. DORSALIS MEDIA Lec. St. Simons Is. VI, 4, 29 (2).

101d—C. DORSALIS VENUSTA Laf. Bainbridge VI, 18, '31.

104—C. MARGINATA Fab. St. Simons Is. V, 30 to VII, 23 (43).

105—C. BLANDA Dej. Swainsboro V, 31, '31 (3); Cairo VI, 19, '31 (2); Thomasville VI, 19, '31 (6).

106—C. WAPLERI Lec. Cairo VI, 19, '31 (37); Thomasville VI, 19, '31 (12).

112—C. GRATIOSA Gúer. Cornelia VI, 28, '31.

112a—C. GRATIOSA HIRTILABRIS Lec. St. Simons Is. VI, 5, '29 (33).

The CARABIDAE that I have taken belong to fifty-nine genera and one hundred and thirty species and varieties.

125—SCAPHINOTUS ELEVATUS Fab. Atlanta VII, 14, '27.

125a—S. ELEVATUS TENEBRICOSUS Roes. Atlanta VI, 4, '29.

127b—S. UNICOLOR SHOEMAKERI Leng. Atlanta VI, 5 to XI, 2 (8); Yonah Mt. VIII, 5, '34.

129—S. ANDREWSI Harr. Blue Ridge VI, 14, '29.

160—SPHAERODERUS CANADENSIS Chd. Toccoa VI, 16, '29.

SPHAERODERUS sp. near LECONTEI—Atlanta VI, 7, '28.

163—S. BICARINATUS Lec. Toccoa VI, 16, '29.

170—CARABUS SYLVOSUS Say. Clayton VIII, 17, '29; Kennesaw Mt. X, 24, '28.

172—C. LIMBATUS Say. Clayton VIII, 17, '29.

173—C. VINCTUS Web. Gainesville VI, 3, '29; Toccoa VI, 16, '29; Stone Mt. X, 24, '31.

176—CALOSOMA EXTERNUM Say. Cairo VI, 19, '31.

180—C. SCRUTATOR Fab. Atlanta VII, 4, '31; Clayton VIII, 17, '29; Waleska VIII, 28, '28.

181—C. WILLCOXI Lec. Griffin VI, 9, '28.

184—C. SAYI Dej. Cairo VI, 19, '31; Atlanta VII, 16, '31.

204—C. CALIDUM Fab. Atlanta VIII, 3 to VIII, 24 (5); Kennesaw Mt. VIII, 3, '28; Rome VIII, 16, '31 (4); Macon VIII, 19, '31.

246—NOTIOPHILUS AENEUS Hbst. Toccoa VI, 16, '29.

251—N. NOVEMSTRIATUS Lec. Brunswick VI, 4, '29; Toccoa VIII, 16, '29.

302—PASIMACHUS SUBLAEVIS Beauv. Atlanta VII, 4, '29; Clayton VIII, 17, '29.

305—P. SUBSULCATUS Say. Macon IV, 30, '28.

307—P. MARGINATUS Fab. Stone Mt. IV, 2 to VI 2 (6); Atlanta IV, 23, '33, X, 13, '31; Blood Mt. V, 21, '33; Toccoa VI, 16, '29; Yonah Mt. VIII, 5, '34.

308—P. DEPRESSUS Fab. Jonesboro VI, 12, '27; Tallulah Falls VII, 15, '28.

308a—P. DEPRESSUS MORIO Lec. Stone Mt. V, 25, '28; Macon VI, 21, '29; Kennesaw Mt. VII, 4, '28; Atlanta VIII, 17, '28.

309—P. PUNCTULATUS Hald. Stone Mt. IV, 23, '27; Atlanta V, 16, '31; VIII, 11, '28; Kennesaw Mt. VI, 19, '27: VI, 24, '34, VIII, 11, '28; Yonah Mt. VIII, 5, '34.

316—SCARITES SUBTERRANEUS Fab. Stone Mt. IV, 24, '32 Atlanta VI, 15, '28; Clayton VI, 16, '29; Cairo VI, 19, '31.

317—S. SUBSTRIATUS Hald. Waycross VI, 10, '31; Cairo VI, 19, '31.

331—DYSCHIRIUS GLOBULOSUS Say. Blue Ridge VI, 14, '29; Toccoa VIII, 16, '29.

334—D. HAEMORRHOIDALIS Dej. Gainesville VIII, 18, '28.

358—CLIVINA DENTIPES Dej. Ellijay VI, 27, '31; Dahlonega VIII, 17, '29.

361—C. PLANICOLLIS Lec. Toccoa VI, 16, '29.

369—C. AMERICANA Dej. Cornelia VI, 16, '29.

373—C. FERREA Lec. Blood Mt. VI, 25, '31.

375—C. BIPUSTULATA Fab. Rome V, 26, '31; Marietta VII, 4, '28; Atlanta VIII, 1, '29.

380—ASPIDOGLOSSA SUBANGULATA Chd. Cornelia V, 16, '28; Jesup VI, 4, '29; Dalton VIII, 15, '28.

382—SCHIZOGENIUS PLANULATUS Lec. Toccoa VIII, 16, '29.

392—ARDISTOMIS OBLIQUATA Putz. Bainbridge VI, 19, '31.

395—A. VIRIDIS Say. Albany VI, 1, '32; Bainbridge VI, 19, '31.

399—PANAGAEUS FASCIATUS Say. Atlanta III, 30, '28, VII, 20, '30; Toccoa VI, 16, '29; Americus VI, 20, '31.

406—MORION MONILICORNIS Latr. Stone Mt. IV, 18 to V, 11 (13); Atlanta VI, 4, '28; Macon VI, 15, '28; Griffin VI, 26, '32.

432—BEMBIDION AMERICANUM Dej. Valdosta III, 21, '31; Cairo VI, 18, '31.

512—B. NIGRUM Say. Toccoa VI, 16, '29.

783—ANILLUS FORTIS Horn. Toccoa VI, 16, '29.

792—PERICOMPSUS EPHIPPIATUS Say. Rockmart VIII, 7, '28.

805—TACHYURA INCURVA Say. Jonesboro VII, 2, '29.

830—T. VIVAX Lec. Toccoa VI, 16, '29; Rockmart VIII, 7, '28.

898—TACHYMENIS FLAVICAUDA Say. Toccoa VIII, 16, '29; Rockmart VIII, 7, '28.

901—PATROBUS LONGICORNIS Say. Toccoa V, 14, '30.

929—MYAS CORACINUS Say. Macon VI, 3, '28; Atlanta IX, 16, '29; Stone Mt. X, 25, '31.

1006—PTEROSTICHUS ADOXUS Say. Atlanta VI, 29, '27; Toccoa VIII, 16, '29.

1027—GASTRELLARIUS BLANCHARDI Horn. Clayton VIII, 16, '29.

1045—CYCLOTRACHELUS UNICOLOR Say. Atlanta VIII, 7, '34.

1047—C. SPOLIATUS Newm. Blairsville VI, 15, '29.

1048—C. VINCTUS Lec. Toccoa VI, 16, '29.

1100—REFONIA MOESTA Say. Blairsville VI, 15, '29; Clayton VIII, 17, '29.

1102—ABACIDUS FALLAX Dej. Griffin V, 12, '31.

1105—A. PERMUNDUS Say. Atlanta X, 7 to X, 20, '34 (62).

1229—LOXANDRUS CRENATUS Lec. Fort Valley VI, 1, '31; Cairo VI, 18, '31.

AMARA sp. Atlanta IV, 18, '33 (2).

1450—DICAELUS DILATATUS Say. Jonesboro VI, 12, '27; Toccoa VI, 16, '29; Yonah Mt. VIII, 5, '34; Kennesaw Mt. X, 24, '28; Stone Mt. X, 24, '31.

1454—D. PURPURATUS Bon. Neel Gap V, 21, '33; Macon VI, 21, '29; Atlanta VII, 11, '27; Albany VII, 30, '31.

1460—D. FURVUS Dej. Toccoa VI, 16, '29.

1464—D. OVALIS Lec. Blairsville VI, 15, '29; Atlanta VII, 5, '32: VIII, 26, '28.

1465—D. ELONGATUS Bon. Atlanta IV, 18 to VIII, 2 (6); Okefenoke Swp. V, 6, '33; Columbus V, 27, '31; Toccoa VI, 16, '29; Yonah Mt. VIII, 5, '34; Stone Mt. X, 24, '31, XI, 3, '28.

1466—D. AMBIGUUS Laf. Atlanta III, 30, '28, III, 28, '29; Fort Valley IV, 29, '31; Clayton VI, 16, '29.

1467—D. TETER Bon. Toccoa VI, 16, '29.

1468—D. POLITUS Dej. Blairsville VI, 15, '29.

1484—CALATHUS OPACULUS Lec. Brunswick VI, 5, '29.

1513—PLATYNUS DECENS Say. Neel Gap V, 29, '32; Blue Ridge VI, 14, '29; Yonah Mt. VIII, 5, '34.

1518—P. CINCTICOLLIS Say. Brunswick IV, 12, '31; Neel Gap V, 21, '33.

1519—P. REFLEXUS Lec. Blairsville V, 14, '31; Blue Ridge VI, 26, '31.

1522—P. EXTENSICOLLIS Say. Cornelia VI, 16, '29.

1555—P. EXCAVATUS Dej. Gainesville VIII, 16, '29.

1556—P. FERREUS Hald. Blue Ridge V, 14, '31.

1578—P. LIMBATUS Say. Macon VI, 3, '28.

1581—P. PUNCTIFORMIS Say. St. Simons Is. VI. 5, '29; Cairo VI, 18, '31; Taccoa VIII, 16, 29.

1584—P. RUFICORNIS Lec. Toccoa VI, 16, '29.

ANCHOMENUS REFLEXUS Lec. Atlanta V, 16, '31 (2).

CIRCINALIA PUNCTIFORMIS Say. Atlanta VI, 5, '32; VI, 10, 29.

CIRCINALIA LIMBATA Say. Stone Mt. V, 10, '29 (2).

1595—OLISTHOPUS PARMATUS Say. Blairsville VI, 15, '29.

1612—CASNONIA PENNSYLVANICA Linn. Tocca VI, 16, '29.

1616—GALERITA JANUS Fab. Atlanta IV, 7, '30; Augusta IV, 10, '31; Stone Mt. IV, 13, '30, IV, 18, '32, V, 9, '31; Waycross V, 8, '33; Quitman VI, 17, '31; Clayton VIII, 17, '29.

1620—G. BICOLOR Drury. Atlanta IV, 16, '27; Griffin VI, 12, '27; Douglasville VII, 15, '27.

1633—EGA SALLEI Chev. Brunswick VI, 5, '29.

1635—TETRAGONODERUS INTERSECTUS Germ. Cairo VI, 18, '31.

1641—LEBIA GRANDIS Hentz. Cornelia V, 16, '28; Atlanta VI, 29, '27, VIII, 2, '31.

1655—L. VIRIDIS Say. Quitman VI, 18, '31; Atlanta VII, 9, '29 (2).

1658—L. PUMILA Dej. Clayton V, 28, '34.

1667—L. ORNATA Say. Blairsville VI, 15, '29.

1671—L. ANALIS Dej. Americus VI, 20, '31.

1688—COPTODERA AERATA Dej. Atlanta VII, 9, '29.

1691—DROMIUS PICEUS Dej. Cornelia VI, 28, '31.

1710—CALLEIDA PUNCTATA Lec. Atlanta V, 29, '27.

1725—PINACODERA LIMBATA Dej. Toccoa VIII, 16, '29.

1726—P. PLATICOLLIS Say. Americus VI, 20, '31.

1756—APENES SINUATA Say. Quitman VI, 17, '31.

1789—BRACHINUS FUMANS Fab. Okefenoke Swp. V, 5, '33; Cairo VI, 18, '31.

1806—Chlaenius tomentosus Say. Blue Ridge VI, 14, '29; Valdosta VII, 24, '27; Atlanta VIII, 3 to VIII, 20 (8); Clayton VIII, 17, '29.

1817—C. pennsylvanicus Say. Atlanta V, 18 to VIII, 8 (4); Clayton V, 28, '34; Albany VII, 30, '31; Dalton VIII, 15, '28.

1822—C. nemoralis Say. Jonesboro VI, 14, '27.

1822(?)—C. nemoralis, var. Athens VI, 12, '31; Atlanta VI, 12, '29, VI, 19, '30, VII, 2, '31, VII, 11, '31; Americus VI, 20, '31.

1838—C. aestivus Say. Valdosta VII, 24, '27.

1841—C. diffinis Chd. Toccoa VI, 16, '29.

1846—C. sericeus Forst. Atlanta IV, 2, '33, VII, 24, '31 (2); Cleveland V, 4, '28; West Point VI, 4, '32; Bainbridge VI, 19, '31.

1856—Anomoglossus emarginatus Say. Quitman VI, 17, '31.

1878—Geopinus incrassatus Dej. Augusta IV, 10, '31; Albany VI, 1, '32; Atlanta VI, 5, '32.

1886—Cratacanthus dubius Beauv. Blue Ridge V, 14, '31; Augusta VI, 9, '32; Cairo VI, 19, '31; Stone Mt. VII, 12, '29; Atlanta VIII, 2 to IX, 5 (5).

1896—Harpalus caliginosus Fabr. Fort Valley VI, 1, '31; Atlanta VI, 12 to X, 24 (17); Blue Ridge VI, 14, '29; Toccoa VII, 3, '31; Helen VII, 11, '34; Albany VII, 30, '31.

1897—H. erraticus Say. Atlanta V, 6, '29, VI, 12, '27, VI, 21, '28; Clayton V, 28, '34; Dalton VI, 7, '31.

1910—H. erythropus Dej. Atlanta VI, 12, '29, VII, 2, '31, VII, 8, '31; Blue Ridge VI, 14, '29; Americus VI, 20, '31.

1915—H. compar Lec. Blue Ridge VI, 14, '29.

1925—H. pennsylvanicus DeG. Columbus V, 19, '31; Brunswick VI, 5, '29; Atlanta VI, 12 to IX, 8 (123); Cairo VI, 18, '31; Calhoun VI, 28, '32; Stone Mt. VII, 10, '29.

1971—H. nitidulus Chd. Neel Gap VI, 25, '31.

2007—H. spadiceus Dej. Toccoa VI, 16, '29.

2010—H. dichrous Dej. Cartersville V, 22, '31; Atlanta VI, 15, '28.

2013—Selenophorus opalinus Lec. Cartersville V, 22, '31; Albany VI, 16, '29.

2026—S. ellipticus Dej. Jesup V, 5, '30; Toccoa VI, 16, '29.

2030—S. palliatus Fabr. Jesup V, 5, '30; Cartersville V, 22, '31; Quitman VI, 17, '31.

2039—S. PEDICULARIUS Dej. Americus VI, 20, '31.
2045—S. FATUUS Lec. Albany VI, 1, '32.
2064—DISCODERUS PARALLELUS Hald. Perry IV, 13, '31; Cleveland V, 4, '28; Atlanta V, 18, 32 (2).
2079—TRIPLECTRUS DULCICOLLIS Laf. Atlanta V. 23 to XI, 18 (7); Rome V, 26, '31.
2088—ANISODACTYLUS NIGERRIMUS Dej. Blue Ridge V, 14, '31.
2108—A. LAETUS Dej. Baxley V, 5, '30; Atlanta VI, 12, '29.
2135—ANISOTARSUS AGILIS Dej. Baxley V, 5, '30; Quitman VI, 17, '31.
2139—A. TERMINATUS Say. Blairsville V, 14, '31.
2218—STENOLOPHUS OCHROPEZUS Say. Cartersville V, 22, '31; Cornelia VI, 16, '29; Atlanta VII, 7, '31.
2246—TACHISTODES TESTACEUS Dej. Atlanta VI, 10, '27.
2251—AGONODERUS LINEOLA Fab. Cornelia VI, 16, '29.
2254—A. INFUSCATUS Dej. Perry IV, 13, '31.
2256—A. PALLIPES Fab. Cleveland V, 4, '28; Cairo VI, 18, '31; Atlanta VI, 19, '33 (2), VII, 7, '31 (4); Douglasville VII, 15, '27.

Pogocolon gaurae Breeding in Missouri (Lepid.: Sphingidae).

The finding of a last stage larva of *Pogocolon gaurae* Ab. & Sm. at Allenton, Missouri, Aug. 13, 1933, by Miss Anne A. Jones, of Webster Groves, Missouri, was an event sufficiently out of the ordinary to merit its being put on record. It was feeding on evening primrose, *Oenothera biennis*, and pupated a few days after it was found. The pupa was kept indoors all winter; a male moth emerged June 1, 1934.

According to Holland (Moth Book, p. 73), the larva feeds on various species of *Gaura*, and the range of the species is from Georgia to Texas and as far north as southern Kansas. It does not appear to be a regular inhabitant of the region near St. Louis, since it is not represented in any collection of Lepidoptera from this locality known to the writer. This occurrence of the larva in this region is of unusual interest because it indicates a long flight from the proper range of the species by a female moth, which oviposited after the flight. The successful attainment of maturity by the caterpillar followed.

HAROLD O'BYRNE, Webster Groves, Missouri.

Notes and Descriptions of West American Cerambycidae (Coleoptera).—II.*

By E. Gorton Linsley, University of California.

Prionus lecontei Lameere.

P. lecontei is not a variety or synonym of *P. californicus* as it has been placed by recent writers, but is a very distinct species. It differs markedly from *californicus* in having thirteen-segmented rather than twelve-segmented antennae, with the external processes of segments four to eleven very strongly produced and longer than the segments to which they are attached (in *californicus* the processes are shorter than the segments on which they occur). In addition, the lobes of the third tarsal segment in *lecontei* are obtuse, not acute as in *californicus* and its allies. These characters give *lecontei* a facies quite distinct from that of any other North American species. It appears to be quite rare in collections and I have seen it only from northern California (Mendocino County).

Prionus horni Lameere.

I have a number of *Prionus* from southern Arizona which agree with Lameere's description of *P. horni*. These differ from *californicus* only in their slightly smaller average size and in having the twelfth segment of the antennae appendiculate and longer than the penultimate segment. It seems probable that these are no more than a subspecies of *P. californicus*.

Xylotrechus nunenmacheri Van Dyke. (Figs. 1, 1a).

In 1920, Dr. E. C. Van Dyke, basing his description on the male, described *nunenmacheri* as a subspecies of *X. insignis* Lec. (Figs. 2, 2a). Mr. G. R. Hopping, in his revision of the Clytini,[1] treats *nunenmacheri* somewhat questionably as a distinct species, stating that "its true status cannot be determined until the female is found." Through the kindness of Mr. W. J. Buckhorn, I have recently had the opportunity of examining a female of this species which was captured by him at Wapinita, Oregon, on May 23, 1934. Mr. Buckhorn took both sexes of *nunenmacheri* from pupal cells in willow, *Salix* sp.

* No. I was published in Entom. News, 1934, 65: 161-165, 181-185.

[1] Hopping, G. R. 1932, Ann. Ent. Soc. Amer. 25:542.

Since the female has never been described it seems worthwhile to append the following diagnosis:

♀. Black, elytra with three narrow yellow fasciae. Head moderately closely, rugosely punctured; frontal carina not prominent; antennae piceous. Pronotum moderately closely, rugosely punctured; disk without fasciae; apex feebly margined with yellow. Scutellum slightly transverse, black. Elytra

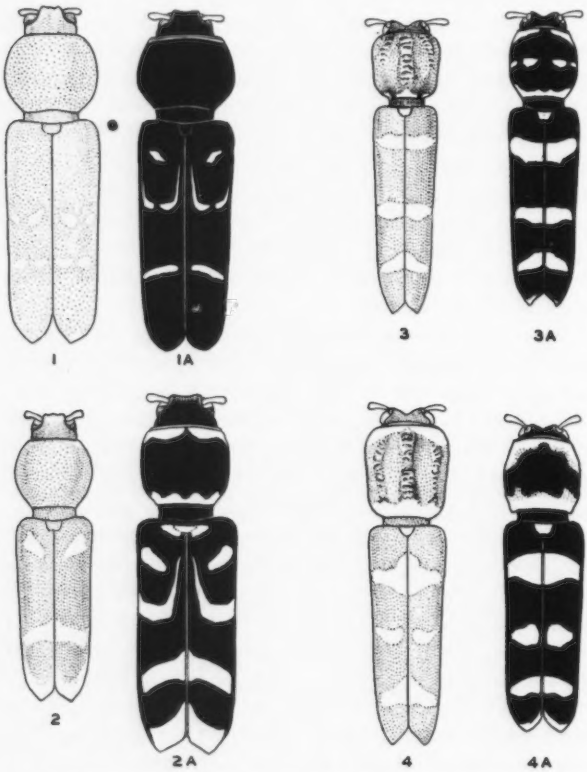

Fig. 1. *Xylotrechus nuncnmacheri* Van Dyke, *male*. 1A, *female*. Fig. 2. *Xylotrechus insignis* LeConte, *male*. 2A. *female*. Fig. 3. *Neoclytus balteatus* LeConte, *male*. 3A. *female*. Fig. 4. *Neoclytus resplendens* Linsley, *male*. 4A. *female*.

parallel-sided, with a small, acute, ante-median fascia, a broken U-shaped median fascia, and a narrow, transverse, post-median band; apices broadly rounded. Legs piceous. Underside black; apex of abdominal segments narrowly margined with yellow.

The female of *nunenmacheri* differs from the same sex of *insignis* in the more coarsely and rugosely punctured head and pronotum; black, rather than rufous or yellowish, antennae; pronotum feebly margined with yellow at apex (as compared to the broad apical and basal margins in *insignis*), elytra without a yellow circumscutellar patch, elytral fasciae much more narrow and inconspicuous, and elytral apices more broadly rounded. In addition, the pro-, meso-, and metasterna are without any dense patches of yellow pubescence, and the abdominal segments are only feebly margined with yellow, not entirely yellow as in *insignis*. Mr. G. R. Hopping separates *nunenmacheri* from *insignis* on the basis of the elytral apices. However, in the series of *insignis* at hand (over one hundred examples of each sex) there is considerable variation in this character. About all one can safely say is that in general the elytral apices are more obtuse in *nunenmacheri*.

NEOCLYTUS ACUMINATUS Fab.

In eastern North America, this species is typically reddish brown with the outer segments of the antennae, apical three-fourths of the elytra, and underside of the body piceous. In western North America there occurs a subspecies in which the body is uniformly reddish brown without any trace of piceous on the antennae, elytra, or underside. This form I would designate as **Neoclytus acuminatus hesperus** new subspecies.

Holotype male (No. 3940 California Academy of Sciences, Ent.), North Cheyenne Canyon, COLORADO, June 24, 1915, reared from *Quercus* sp.

Neoclytus resplendens new species. (Figs. 4, 4a.)

♂. Elongate, reddish brown, densely clothed with recumbent, white pubescence; elytra with three transverse yellow fasciae. Head sparsely clothed with white pubescence, sulcate between the antennae; eyes small, finely granulated; antennae reaching slightly beyond the humeri, basal segments slender, reddish brown, outer segments swollen, piceous. Pronotum distinctly

longer than broad, wider at apex than at base; disk with three longitudinal rows of transverse rugae; pubescence moderately dense, white, anterior and basal margins with a broad band of dense yellow pile. Scutellum transverse, obtusely pointed behind, densely clothed with yellow pubescence. Elytra parallel-sided, finely punctured; ante-median yellow fascia dilated at suture, median band straight, post-median fascia acute; apices obliquely truncate. Legs slender, sparsely clothed with white hairs; femora unarmed at apex. Under surface densely clothed with white pubescence which is condensed into very dense patches on the anterior margin of the metasternum, the episterna of the meso- and metathorax, and the sides of the abdomen. Length 12-17 mm.

♀. Black; legs, basal one-half of the antennae, and anterior margin of the elytra reddish brown. Pronotum broadly margined at base and apex with yellow pubescence. Elytra with three transverse bands of yellow pubescence much as in the male; apices obtusely rounded. Episterna of meso- and metathorax and abdominal segments densely clothed with yellow pubescence. Length 14-18 mm.

Holotype male (No. 3941 California Academy of Sciences, Ent.), taken in Sequoia National Park, in July, 1931, F. T. Scott collector, allotype female (No. 3942 California Academy of Sciences, Ent.), from Carmel, Monterey County, August 1, 1908, L. S. Slevin collector, and partypes in the collection of the writer as follows: one male and one female from Kelseyville, July, 1933, two males, Sequoia National Park, July, 1931, and one female, Yosemite National Park, August 9, 1933, all in CALIFORNIA.

This species is one of the most beautiful of our North American *Neoclytus*. Since it is probably most closely related to *N. balteatus* LeConte, some of the more important differences are summarized below:

Neoclytus resplendens Male.	*Neoclytus balteatus* Male.
Body clothed with dense, white pubescence which is very conspicuous on the underside.	Body sparsely pubescent, the pubescence dominantly brownish, inconspicuous on the under side.
Pronotum broadly margined with yellow at base and apex; ante-median elytral fascia dilated at the suture.	Pronotum not margined apically, basal margin narrow, incomplete, dilated at middle; ante-median elytral fascia straight.

Pronotum distinctly longer than broad, wider at apex than at base; punctures and rugae coarser.

Scutellum obtusely pointed behind.

Female.

Disk of pronotum without yellow fasciae.

Elytral apices obtusely rounded.

Pronotum subquadrate, slightly transverse, apex and base subequal in width; punctures and rugae less coarse.

Scutellum subquadrate, truncate behind.

Female.

Disk of pronotum with two transverse yellow fasciae.

Elytral apices obliquely truncate.

The average size of both sexes of *resplendens* is noticeably greater than that of *balteatus*. In addition, all of the examples of *balteatus* that I have seen are from northern California, Oregon, or British Columbia, where it occurs on manzanita, *Arctostaphylos* sp., whereas *resplendens* is found in central and southern California on various species of oaks.

Stenosphenus arizonicus new species.

Rufous; antennae, tibiae, and tarsi black, abdomen piceous. Head short, broad, coarsely and closely punctured; vertex distinctly sulcate between the antennae; antennae one and one-half times as long as the body (♂), finely, closely punctured, segments three to seven spinose at apex, carinate. Pronotum slightly narrowed at the apex, sides feebly rounded; surface smooth, with only scattered, fine punctures; pubescence fine, sparse, suberect. Scutellum finely, closely punctured, densely pubescent. Elytra nearly three times as long as broad, finely, evenly punctured, pubescence suberect, pale, not dense; apices emarginate, the angles spiniform. Legs slender; femora piceous at apex, punctures sparse, pubescence fine, sparse, suberect; tibiae carinate, more closely punctured and pubescent. Prosternum (♂) with a large, depressed, coarsely and cribrately punctured area on each side of a medium polished elevation. Episterna of meso- and metathorax, coxae, and abdomen at sides, finely, closely punctured, densely clothed with recumbent, white pubescence; metasternum and abdomen at middle sparsely punctured, clothed with scattered, suberect, pale hairs. Length 12.5 mm.; breadth 3 mm.

Holotype male (No. 3943, California Academy of Sciences, Ent.) from Globe, ARIZONA, August, 1930, collected by Mr. D. K. Duncan.

This species will run to *S. novatus* in Horn's[2] table of

[2] Horn, G. H., 1885. Trans. Amer. Ent, Soc., 12: 172.

Stenosphenus, but it differs from that species in the shape of the pronotum which is only slightly wider at base than at apex, the very short, broad head, and the fine punctures of the pronotum and elytra. In *S. novatus* Horn, the head is elongated and narrowed, the antennal tubercles scarcely elevated, the pronotum strongly narrowed anteriorly, and the pronotum and elytra coarsely, sparsely punctured.

Stenosphenus aridus new species.

Black; prothorax and femora rufous. Head very coarsely punctured; vertex distinctly sulcate between the antennae; antennae slender, slightly longer than the body (♂), moderately coarsely, closely punctured, ciliate on the inner side, segments three to seven spinose at apex, segments three to nine carinate. Pronotum transverse, as wide at apex as at base, clouded with piceous at the sides and apex; punctuation coarse, irregular, except for the smooth median vitta; coarse and fine punctures intermixed. Scutellum closely, finely punctured and pubescent. Elytra about three times as long as broad; punctures moderately coarse, regular; pubescence long, pale, suberect; apices emarginate, not spinose, the outer angles dentiform. Legs slender, clothed with suberect, pale hairs; femora clouded with piceous at apex, tibiae carinate, first segment of the posterior tarsus slightly longer than the second and third segments together. Prosternum (♂) coarsely punctured and depressed on each side of the median smooth carina. Episterna of meso- and metathorax, and abdomen at the sides, closely, finely punctured, densely clothed with short, white pubescence; metasternum and abdomen at middle, almost glabrous, shining. Length 10 mm.; breadth 2.5 mm.

Holotype male (No. 3944 California Academy of Sciences, Ent.) and one paratype male (in the collection of the writer), from Zion National Park, UTAH, May 16-21, 1934, collected by Dr. Donald DeLeon. The specimens were reared from small branches of *Populus fremontii*.

S. aridus is black with the prothorax and femora rufous. The femora at apex and the pronotum at the sides and apex are clouded with piceous. The species appears to be related to the preceding but, in addition to the difference in color, may be distinguished by the more rounded and coarsely punctured pronotum with coarse and fine punctures intermixed, the more coarsely punctured elytra, the unarmed elytral apices, and the denser elytral pubescence.

A New "Nomenclator Zoologicus"

For several years past the work of systematists has been seriously impeded by the lack of a complete list of the generic names used in Zoology. The new genera that have appeared in the "Zoological Record" have not been collected together since the last volume of Waterhouse's "Index Zoologicus," which covered the period 1901-1910. The "Nomenclator Animalium Generum et Subgenerum," which has been in course of publication since 1926 by the Prussian Academy of Science, although it contains much valuable information, only includes the literature up to 1921, and only about three-fourths of it has yet appeared.

The Council of the Zoological Society of London has therefore approved a scheme for the preparation of as complete a list as possible of all the generic names that have been used in Zoology from the 10th edition of Linnaeus up to and including the literature for 1935. It is anticipated that this may involve some 190,000 names, but it is hoped that it will be found possible to publish it, at a moderate price, about the end of 1937.

All systematists and others throughout the world interested in the production of such a work are invited to report any names of genera or subgenera (with a reference to the original place of publication) that appear to have been omitted from existing records or catalogues. These should be sent as soon as possible to

DR. S. A. NEAVE, O.B.E., F.Z.S.,
Imperial Institute of Entomology,
41, Queen's Gate, London, S.W.7,
England,

who is supervising the production of the work on behalf of the Society.

P. CHALMERS MITCHELL, *Secretary*,
Zoological Society of London.

International Biological Congresses of 1935.

Messrs. L. H. Weld and J. C. Bradley for the Entomological Society of America, P. W. Claassen for the American Association of Economic Entomologists and J. C. Bradley for Section F, American Association for the Advancement of Science, announce co-operative tours in connection with International Congresses to be held this summer: Second Neurological, London, July 29-Aug. 2; Fifteenth Physiological, Leningrad and Moscow, Aug. 8-18; Sixth Botanical, Amsterdam, Sept. 2-7; Sixth Entomological, Madrid, Sept. 6-12; Twelfth Zoological, Lisbon, Sept. 14-21. For information address Prof. J. C. Bradley, 322 E. State St., Ithaca, New York.

ENTOMOLOGICAL NEWS

PHILADELPHIA, PA., JUNE, 1935.

We believe that there are many entomologists who, like the writer, unconnected with Biological Abstracts, have heard with dismay of the reported decision of the Rockefeller Foundation to discontinue its support of that journal. Through a period of more than eight years we have become accustomed not only to lean heavily upon the Abstracts for information in our own fields of research, but also to use it for the revision and strengthening of our lecture notes in fields more remote. In the preparation of the latter we have become acquainted with many books and articles of which we would otherwise have remained totally ignorant. The titles of many biological publications are woefully inadequate in giving a true idea of their contents and he who depends upon titles misses many sources of pertinent knowledge. The reading of the best abstract, to be sure, falls short of the gain acquired by reading the article or book abstracted, but an abstract is better than complete ignorance of the publication concerned. Time in which to read all the originals is lacking with most teachers who strive also to investigate. The cessation of the Abstracts would, therefore, mean loss to institutions and to their staffs in the value of both instruction given and research accomplished. We believe that the use of the Abstracts has brought home to us a realization that each volume, with all the advantages just hinted at, is really of much greater value to each of us, as individual *teachers and investigators,* than the nine dollars we have been paying for it each year. From the combined teacher-investigator standpoint, we, therefore, should look on the abandonment of the Abstracts as a distinctly backward step in Biology. The wider view and the co-ordination of the various fields of Biology which the Abstracts have made possible *are* indispensable.

We trust that every effort will be made to secure adequate support for its continuance. We suggest that those who share our thoughts will, each, as far as his individual means allow, establish his own higher rate of subscription, thus showing, at the same time, his appreciation of the benefits which the Abstracts confers upon him. The Abstracts exists primarily for biologists, and it is the biologists who must largely determine whether it is to be continued or not.

P. P. CALVERT

List of the Titles of Periodicals and Serials Referred to by Numbers in Entomological Literature in Entomological News.

1. Transactions of The American Entomological Society. Philadelphia.
2. Entomologische Blätter, red. v. H. Eckstein etc. Berlin.
4. Canadian Entomologist. London, Canada.
5. Pysche, A Journal of Entomology. Boston, Mass.
6. Journal of the New York Entomological Society. New York.
7. Annals of the Entomological Society of America. Columbus, Ohio.
8. Entomologists' Monthly Magazine. London.
9. The Entomologist. London.
10. Proceedings of the Ent. Soc. of Washington. Washington, D. C.
11. Deutsche entomologische Zeitschrift. Berlin.
12. Journal of Economic Entomology, Geneva, N. Y.
13. Journal of Entomology and Zoology. Claremont, Cal.
14. Entomologische Zeitschrift. Frankfurt a. M., Germany.
17. Entomologische Rundschau. Stuttgart, Germany.
18. Internationale entomologische Zeitschrift. Guben, Germany.
19. Bulletin of the Brooklyn Entomological Society. Brooklyn, N. Y.
20. Societas entomologica. Stuttgart, Germany.
21. The Entomologists' Record and Journal of Variation. London.
22. Bulletin of Entomological Research. London.
23. Bollettino del Laboratorio di Zoologia generale e agraria della R. Scuola superiore d'Agricultura in Portici. Italy.
24. Annales de la société entomologique de France. Paris.
25. Bulletin de la société entomologique de France. Paris.
26. Entomologischer Anzeiger, hersg. Adolf Hoffmann. Wien, Austria.
27. Bolletino della Società Entomologica. Genova, Italy.
28. Ent. Tidskrift utgifen af Ent. Föreningen i Stockholm. Sweden.
29. Annual Report of the Ent. Society of Ontario. Toronto, Canada.
31. Nature. London.
32. Boletim do Museu Nacional do Rio de Janiero. Brazil.
33. Bull. et Annales de la Société entomologique de Belgique. Bruxelles.
34. Zoologischer Anzeiger, hrsg. v. E. Korschelt. Leipzig.
35. The Annals of Applied Biology. Cambridge, England.
36. Transactions of the Entomological Society of London. England.
37. Proceedings of the Hawaiian Entomological Society. Honolulu.
38. Bull. of the Southern California Academy of Sciences. Los Angeles.
39. The Florida Entomologist. Gainesville, Fla.
40. American Museum Novitates. New York.
41. Mitteilungen der schweiz. ent. Gesellschaft. Schaffhausen, Switzerland.
42. The Journal of Experimental Zoology. Philadelphia.
43. Ohio Journal of Sciences. Columbus, Ohio.
44. Revista chileña de historia natural. Valparaiso, Chile.
45. Zeitschrift für wissenschaftliche Insektenbiologie. Berlin.
46. Zeitschrift für Morphologie und Ökologie der Tiere. Berlin.
47. Journal of Agricultural Research. Washington, D. C.
48. Wiener entomologische Zeitung. Wien, Austria.
49. Entomologische Mitteilungen. Berlin.
50. Proceedings of the U. S. National Museum. Washington, D. C.
51. Notulae entomologicae, ed. Soc. ent. Helsingfors. Helsingfors, Finland.
52. Archiv für Naturgeschichte, hrsg. v. E. Strand. Berlin.
53. Quarterly Journal of Microscopical Science. London.
54. Annales de Parasitologie Humaine et Compareé. Paris.
55. Pan-Pacific Entomologist. San Francisco, Cal.
56. "Konowia". Zeit. für systematische Insektenkunde. Wien, Austria.

57. La Feuille des Naturalistes. Paris.
58. Entomologische Berichten. Nederlandsche ent. Ver. Amsterdam.
59. Encyclopédie entomologique, ed. P. Lechevalier. Paris.
60. Stettiner entomologische Zeitung. Stettin, Germany.
61. Proceedings of the California Academy of Sciences. San Francisco.
62. Bulletin of the American Museum of Natural History. New York.
63. Deutsche entomologische Zeitschrift "Iris". Berlin.
64. Zeitschrift des österr. entomologen-Vereines. Wien.
65. Zeitschrift für angewandte Entomologie, hrsg. K. Escherich. Berlin.
66. Report of the Proceedings of the Entomological Meeting. Pusa, India.
67. University of California Publications, Entomology. Berkeley, Cal.
68. Science. New York.
70. Entomologica Americana, Brooklyn Entomological Society. Brooklyn.
71. Novitates Zoologicae. Tring, England.
72. Revue russe d'Entomologie, Leningrad, USSR.
74. Sbornik entomolog. národního musea v Praze. Prague, Czechoslavokia.
75. Annals and Magazine of Natural History. London.
77. Comptes rendus heb. des séances et mémo. de la soc. de biologie. Paris.
78. Bulletin Biologique de la France et de la Belgique. Paris.
79. Koleopterologische Rundschau. Wien.
80. Lepidopterologische Rundschau, hrsg. Adolf Hoffmann. Wien.
81. Folia myrmecol. et termitol. hrsg. Anton Krausse. Bernau bei Berlin.
82. Bulletin, Division of the Natural History Survey. Urbana, Illinois.
83. Arkiv för zoologie, K. Svenska Vetenskapsakademien i. Stockholm.
84. Ecology. Brooklyn.
85. Genetics. Princeton, New Jersey.
87. Archiv für Entwicklungs mechanik der Organ., hrsg. v. Roux. Leipzig.
88. Die Naturwissenschaften, hrsg. A. Berliner. Berlin.
89. Zoologische Jahrbücher, hrsg. v. Spengel. Jena, Germany.
90. The American Naturalist. Garrison-on-Hudson, New York.
91. Journal of the Washington Academy of Sciences. Washington, D. C.
92. Biological Bulletin. Wood's Hole, Massachusetts.
93. Proceedings of the Zoological Society of London. England.
94. Zeitschrift für wissenschaftliche Zoologie. Leipzig.
95. Proceedings of the Biological Soc. of Washington, Washington, D. C.
97. Biologisches Zentralblatt. Leipzig.
98. Le Naturaliste Canadien. Cap Rouge, Chicoutimi, Quebec.
99. Mélanges exotico-entomologiques, Par Maurice Pic. Moulins, France.
100. Bulletin Intern., Académie Polonaise des Sci. et des Lett. Cracovie, Poland.
101. Tijdschrift voor entomologie, Nederlandsche Entomol. Ver., Amsterdam.
102. Entomologiske Meddelelser, Entomologisk Forening, Copenhagen.
103. Journal of the Kansas Entomological Society, Lawrence, Kansas.
104. Revista de la Sociedad entomologica Argentina, Buenos Aires.
105. Revista Entomologia, São Paulo, Brazil.
106. Anales Sociedad Cientifica Argentina, Buenos Aires.
107. Stylops: a Journal of Taxonomic Entomology, London.
108. Revista, Col. Nac. Vicente Rocafuerte, Guavaquil.
109. Arbeiten uber morphologische und taxonomische entomologie aus Berlin-Dahlem.
110. Arbeiten ueber physiologische und angewandte entomologie aus Berlin-Dahlem.
111. Memorias do Instituto Oswaldo Cruz. Rio de Janeiro.
112. Anales del Instituto de Biologia Mexico.
113. Entomologische Beihefte aus Berlin Dahlem.
114. Occasional Papers of the Museum of Zoology, University of Michigan.
115. Memorias de la Sociedad Cubana de Historia Natural. Havana, Cuba.
116. Parasitology. Ed. Keilin and Hindle. London.

Entomological Literature

COMPILED BY LAURA S. MACKEY UNDER THE SUPERVISION OF E. T. CRESSON, JR.

Under the above head it is intended to note papers received at the Academy of Natural Sciences, of Philadelphia, pertaining to the Entomology of the Americas (North and South), including Arachnida and Myriopoda. Articles irrelevant to American entomology will not be noted; but contributions to anatomy, physiology and embryology of insects, however, whether relating to American or exotic species will be recorded.

The figures within brackets [ ] refer to the journal in which the paper appeared, as numbered in the list of Periodicals and Serials published in our January and June issues. This list may be secured from the publisher of ENTOMOLOGICAL NEWS for 10c. The number of, or annual **volume**, and in some cases the part, heft, &c. the latter **within** ( ) follows; then the pagination follows the **colon** :

All continued papers, with few exceptions, are recorded only at their first installments.

(*) Papers containing new forms or names not so stated in titles, have an * within parentheses thus (*) following the pagination of reference to paper.

(S) Papers pertaining exclusively to neotropical species, and not so indicated in the title, have the symbol (S) at the end of the title of the paper.

For records of Economic Literature, see the Experiment Station Record, Office of Experiment Stations, Washington. Also Review of Applied Entomology, Series A, London. For records of papers on Medical Entomology, see Review of Applied Entomology, Series B.

Note. Titles of papers containing new forms or new names will be indicated by an asterisk within parentheses at end of reference, (*).

Papers published in the Entomological News are not listed.

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ANATOMY, PHYSIOLOGY, ETC.—Aschner, M.—Studies on the symbiosis of the body louse. [116] 26: 309-314, ill. **Berland, L.**—Premiers résultats de mes recherches en avion sur la faune et la flore atmosphériques. [24] 104: 73-96, ill. **Blood, R.**—The anatomy of Pyrota mylabrina. [6] 43: 1-16. **Collins & Machado.**—Comments upon phototropism in the codling moth with reference to the physiol-

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(6) 6: 75-160. **Mellanby, K.**—A comparison of the physiology of the two sps. of bed-bug which attack man. [116] 27: 111-122. **Murray & Tiegs.**—The metamorphosis of Calandra oryzae. [53] 77: 405-495, ill. **Orosi-Pal, Z.**—Die altersimmunität der honigbiene gegen die milbe Acarapis woodi. [Zeit. f. Parasitenk.] 7: 401-407, ill. **Otter, G. W.**—On the early stages of Lestodiplosis alvei (Diptera) especially in relation to the larval head capsule. [116] 26: 582-593, ill. **Rodhain et Brutsaert.**—L'evolution des Trypanosoma . . . chez Melophagus ovinus. [77] 118: 1228-1231. **Tischler, N.**—Studies on how Derris kills insects. [12] 28: 215-220, ill. **Watson, J. R.**—Effect of a freeze on some Citrus insects. [39] 18: 54. **Whittington, F. B.**—The alimentary canal of Harpalus pennsylvanicus (Coleoptera). [43] 35: 131-135, ill. **Wigglesworth, V. B.**—The physiology of ecdysis in Rhodnius prolixus (Hemiptera). [53] 77: 191-222, ill. **Young, R. T.**—"Sleep" aggregation in the beetle, Altica bimarginata. [68] 81: 435-439.

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[43] 35: 101-104, ill. **Van Duzee, E. P.**—Some recent neuropteroid papers. [55] 11: 29-30.

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HEMIPTERA.—Barber, H. G.—Hemiptera-Heteroptera of the Galapagos Islands. [Mag. Naturvid. Oslo] 74: 281-289. (*). **Barber, H. G.**—A n. sp. of Edessa from Puerto Rico (Pentatomidae.) [90] 786: 3 pp. **Drake, C. J.**—American Tingitoidea in the Natural History Museum of Vienna. [56] 14: 9-20. (*). **Hempel, A.**—Three n. sps. of Coccidae including three n. gen. and one new sub-family from Brazil. [109] 2: 56-62, ill. **Hungerford & Evans.**—The Hydrometridae of the Hungarian National Museum and other studies in the family. [An. Hist. Nat. Mus. Nat. Hungarici] 28: 31-112, ill. **Jorgensen, D. D.**—A study of some Utah Coccidae. [Pro. Utah Ac. Sc.] 11: 273-284, ill. **Knowlton, G. F.**—Beet leafhopper notes. [Pro. Utah Ac. Sc.] 11: 237-239, ill. **Tissot, A. N.**—A new Myzus from Florida. [39] 18: 49-52, ill. **Van Duzee, E. P.**—Four hitherto undescribed Hemiptera [55] 11: 25-29. (*).

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EXCHANGES

This column is intended only for wants and exchanges, not for advertisements of goods for sale or services rendered. Notices not exceeding three lines free to subscribers.

These notices are continued as long as our limited space will allow; the new ones are added at the end of the column, and, only when necessary those at the top (being longest in) are discontinued.

Exchange—Will collect insects of Connecticut this season and desire to get in touch with collectors desiring this material, either in exchange or for cash. Harry L. Johnson, So. Meriden, Conn.

Wanted— Names and addresses of those desiring Cocoons of Actias luna and Automeris io. Exchange considered. Eggs in season. Virginia Weaver, 822 S. College Ave., Tulsa, Okla.

Literature Wanted—Barnes & McDunnough's "Contributions," Henry Edward's "Pacific Coast Lepidoptera" and other publications relative to North American Lepidoptera. C. F. dos Passos, Mendham, New Jersey.

Geometers Wanted from all parts of United States, for cash or exchange. Edward Guedet, P. O. Box 305, Napa, California.

Wanted—Tabanidae (Horseflies and Deerflies). Exchange, purchase, or for determination. G. B. Fairchild, P. O. Box 272, Monticello, Fla.

Exchange.—Lepidoptera of the Western United States for rare American or tropical specimens. C. W. Herr, Woodburn, Ore. R-3.

Wanted—Insects in exchange for Japanese insects or to buy. Tell me your wishes. Hiromu Yamamoto, Matsuo-Kozan. Iwategun Iwateken, Japan.

Would like to exchange Southern California insects for any North American Mutillidae (wingless wasps or velvety ants). Curtis Brown, 2950 G St., San Diego, California.

Wanted.—To get in touch with Specialists who will make determinations for a share of our duplicates. We have many undetermined specimens from all parts of Iowa.—H. E. Jaques, Iowa Insect Survey, Mt. Pleasant, Iowa.

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